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ABSTRACT

This paper describes the Family Development Research Program, a program combining quality infant day care services with a home visitation component. Particular emphasis in this paper is on the day care center curriculum. Primary goals of the program are: (1) the design and maintenance of optimal environments which nourish an infant's development at different stages of growth, and (2) development of techniques for providing infant learning experiences and language lessons within the daily routines of caregiving. Goals of the home visitation component are to maximize family functioning, contribute to parental knowledge of child development, and foster parental involvement in their children's cognitive and psychosocial development. Included in this paper are the program's goals and rationale; criteria used for selecting participating infants; case findings and selection process; day programs for infants 6 to 15 months and 15 to 18 months old; the family style day program (or multi-age differentiated-environment groupings) for children 18 to 36 months old; staff qualifications and training; curriculum planning and activity guidelines; the infant curriculum; curriculum for the family style day program; processes used to generate curriculum activities; relationship of curriculum to child functioning; and measures used to assess family and parental functioning, teacher effectiveness and children's language, cognitive and social-emotional development. (SB)

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THE FAMILY DEVELOPMENT RESEARCH PROGRAM:

WITH EMPHASIS ON THE CHILDREN'S CENTER CURRICULUM

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Historical Background

The Children's Center, a school and day care center for infants, toddlers, and preschoolers, was founded by Dr. Bettye Caldwell, in 1964. The program goals focused on the creation of a warm, nurturant staff, and an optimal learning environment for the children (Caldwell, 1967). Additionally, since group infant care was such a new concept for the United States, one of the goals was to ensure that no attenuation of parent-child attachment occurred as a result of group care for infants (Caldwell, Wright, Honig, & Tannenbaum, 1970). Further efforts were directed to the creation of a variety of age-appropriate materials and tasks for the structured and semi-structured sessions scheduled each day (Caldwell & Richmond, 1968).

Encouraging gains in cognitive functioning were made after two years in the program by children of both middle and lower socio-economic backgrounds. However, as the program graduates progressed into elementary school, these gains tended not to be maintained (Tannenbaum, 1969). Decline in scores was particularly evident for the low-income group of children. Such findings, plus the experience gained in the initial pioneering program, provided the rationale for the present program directed by Dr. J. Ronald Lally[1] for the past three years.

The Family Development Research Program

Goals and Rationale

The Family Development Research Program represents a more extensive

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effort to offer each child in the program chances for sustained loving and learning experiences ard successes from earliest infancy. The goals of this effort involve both the infants and their families. The design and maintenance of optimal environments which nourish an infant's development at different stages of his growth remains a primary goal. Staff training and monitoring of personnel effectiveness in relation to program goals are important components of the infant program. Development of techniques for embedding the provision of infant learning experiences and language lessons in the daily routines of caregiving and nurture is another fundamental goal.

The major goals of the home visitation component of the program are (a) to maximize effective family functioning, (b) to contribute to parental knowledge of child development and (c) to foster the positive involvement of parents with their children's cognitive and psychosocial functioning (Lally, 1972a). Weekly parent workshops, where everything from crib mobiles to tie-dyed dresses are created, have been one successful method of meeting these parental goals. A parent association with monthly meetings; outings and excursions of staff and parents to zoos and parks; and "Memo to Mommy" sent home with an infant by his teachers each day are other techniques whereby bridges of trust and communication are built between program staff and parents. Such goals are also actively implemented by open invitations to parents to visit the Children's Center and to lunch with children and teachers. Weekly home visits are made to each family by a paraprofessional child development trainer. She brings nutritional, health, and cognitive information and skills to parents. Additionally, she serves as a resource person to help families learn about and utilize community resource facilities more effectively in order to cope with their problems.

Since parents are the primary caregivers and teachers of their infants, it is imperative to support and strengthen their abilities, potency, and pleasure

in this role. Effectiveness in carrying out this goal in the long run may contribute more to a child's flourishing than any particular curricular prescriptions or dosages which can be offered daily in a day care program. Longitudinal follow-up of program graduates and their families, as well as an ongoing evaluation during the first three years of life, are thus both carried on to assess the impact of the program's efforts.

Criteria for Selection of Infants

The following qualifications characterize families whose infants enter the Children's Center program at six months of age:

1. The mother's educational level does not include a high school diploma.
2. The father's education level includes a high school diploma or less.
3. Family income is under $5,000 per year.
4. There are no more than one or two children in the family.
5. The infant has no organic impairment at birth.
6. All families whose infants attend the Children's Center agree to accept weekly home visitation by a paraprofessional Child Development Trainer (CDT) assigned to the family.

An approximately equal number of boys and girls are enrolled in the program. More black families than white families have been enrolled in the program, although the original criteria called for equal ethnic representation. Higher attrition rates among white families as well as other familial variables account for this discrepancy.

Case Findings and Selection Process

Each infant belongs to one of the following program groups.

1. Six-month entries non-YMED. These families received no intervention of any kind until the entry of the infant into the center program at six months.

2. Six-month entries YMED. The mothers of these infants have received some prenatal and postnatal counseling and schooling in the YMED (Young Mothers' Educational Development) Program for pregnant high school students.[2]

3. Perinatal non-YMED. The families of these infants have received weekly home visits by a paraprofessional Child Development Trainer (CDT) assigned by the Center to the family from the sixth month of pregnancy onward. Nutrition, health, and child development information are provided to the family.

4. Perinatal YMED. This group of infants comes from families who have received the prenatal and postnatal Center program of the third group as well as the YMED program of the second group before entry into the Center program at six months.

Infants have been recruited through a wide variety of means. Hospital records have been scanned to locate newborns from low-income geographical areas. Door-to-door canvassing by a paraprofessional visitor in low-income areas has yielded some of our sample. Self-referrals have accounted for some infants accepted. However, the experimental design of our research does not permit entry later than six months of age. This rule has made self-referral not as important a source as it often can be when a day care program gets good notices via neighborhood grapevines. The Syracuse YMED Program for unwed teenage mothers has been a major source of families who meet the criteria and are particularly in need of infant care services.

Locale of the Children's Center and Structure of the Program

Day care is provided for infants from six months to 36 months of age in the Children's Center, located in spacious quarters rented in a church situated in a low-income area.

Infants at 36 months graduate to the Syracuse University Early Childhood Education Center (SUECEC), whose director is Dr. Margaret Lay. This school provides an activity-centered free-choice learning situation which is very compatible with the family-style groups (to be described below) to which our oldest infants belong.

In the Children's Center three main groupings of infants have been arranged to accommodate different developmental stages.

The Infant Fold

Infants from six to 15 months attend either a morning or afternoon program. Each infant is assigned to a particular caregiver in the Infant Fold. Thus, each infant has a special person who is responsible for his or her feedings, comforting, learning games, language experiences and loving. The ratio of infants to adults is four to one. Volunteers and students fulfilling undergraduate practicum requirements in the Syracuse University College for Human Development sometimes permit an even more favorable ratio. Infants are fed in the classroom and sleeping facilities are also provided in the infant classroom. The Infant Fold curriculum, to be described later in detail, is strongly influenced by Eriksonian, Piagetian and language development principles. Stimulation materials are home-made as well as store-and-catalogue bought. Caregivers are encouraged to use their own ingenuity with discarded or inexpensive materials. For example, with three different sized orange juice cans or with colorful ribbons tied to squeak toys, teachers create learning opportunities and learning games for infants. The infant rooms themselves are arranged to nnurture sensorimotor activities and explorations. Low toy shelves are easily reached by creepers or toddlers who can thus discover the potentialities of many items on their own. Mobiles hanging from walls near the diapering tables and wall mirrors at floor level are grist for the infant's visual and tactual explorations. Divider screens, furniture pieces, and area rugs are arranged to define special areas for a variety of activities.

The Transition Group

Babies from 15 to 18 months are in a special group where a more enriched and varied program of activities can be offered beyond the predominantly sensorimotor activities of the Infant Fold. Infants who have only recently begun to develop skills in locomotion, self-feeding, or coping with large spatial areas and a great deal of freedom of choice, can develop here assurance, experience and competence to deal with the family-style world of the older toddler.

Family Style Education: Multi-age Differentiated-Environment Groupings

The 18 to 36 months old infant program is somewhat akin to the British open school in its philosophy and structure. This program is called "family-style" since children of varying ages are together daily as they typically would be in family settings. The children have freedom of access to many classrooms during their full-day's activities and freedom of choice in their selection of activities (Lally & Smith, 1970).

Two replicated modules of this family-style structure exist. In each module four major environmental areas are offered to the infants. One or two teachers offer their wares, their help, and their encouragement in each of the following areas:

1. The large muscle area.

   Walkboards, large building blocks and cardboard boxes, slides, rocking boats, climbers, tumbling mats, and other such equipment encourage the children to try activities involving large muscle and kinesthetic development.

2. The small muscle area.

   Fine motor coordination is encouraged by a plethora of materials (for example: pegboards, puzzles, stringing beads) which invite

the practice of prehension skills. Many of these toys are homemade at the Children's Center and often consist of items, such as coffee cans plus clothespins and bottle caps to fill them, with which the toddler is already familiar at home.

3. The sense experience area.

   In this area materials and opportunities are provided for sensory experiences. Pasted in a cluster on a cardboard are bumpy kidney beans to touch. Stitched onto a burlap wall hanging is a puppy, whose body is made of plush fake-fur. Record players, rhythm and music instruments are available here. A reading corner is provided with a comfortable couch and reachable shelves of attractive books. Taste sampling (for example, sweet honey, then sour lemon) and taste mixing (honey <u>on</u> lemon) are included in this area's ventures. Assorted gerbils, goldfish and terraria offer further potential sensory explorations, always of course with the teacher's gentle assistance, both to furry creatures and to curious toddlers.

4. The expressive area and snack area.

   Furniture groupings permit several subdivisions of this major area, so that painting easels, housekeeping corner, dress-up corner, table for claywork or plastic arts, water play tubs, sand or sawdust box, and table set with midmorning and midafternoon snacks are available choices for the children.

Additionally, the children have a large variety of wheeled toys and equipment in the large gymnasium which is used in the inclement weather Syracuse generously provides each winter. Part of the gym serves as a dormitory at nap-time for the toddlers. A large dining area comfortably accommodates the toddlers who eat lunch family-style--in groups with a teacher at each table.

Outdoor grassy and paved areas permit the use of swings, tricycles, slides, a basketball hoop and even shallow wading pools in warm weather.

Because the Children's Center's philosophy is strongly oriented to learning embedded in a loving, caregiving environment, we also consider the cooking and clean-up kitchen areas with their fascinating equipment as part of the total learning environment. The food preparation staff affectionately welcomes the visits of a child who has been invited to accompany a caregiver on an errand to the kitchen. Cheerful personnel and bright yellow buses make the daily bus ride an additional source of interesting experiences for the children transported to and from the Center.

Staff Qualifications

Provision of a variety of people, whether tall, short, skinny, plump, dark, light, male or female, is another aspect of the experiential richness deliberately planned for the infants in the Children's Center.

Formal educational staff qualifications range from non-high school diploma personnel to teachers with a Master's degree in Early Childhood Education. One of our most gifted Infant Fold teachers was initially a kitchen-aide in the Children's Center program. Prime requisites for Center personnel include warmth, patience, willingness to accept program philosophy and goals, and willingness to learn how to work toward these goals with sensitivity to individual infant capabilities, needs, and learning styles. Initial attention to staff qualifications in selection can avoid later personnel frictions. Careful and creative decisions in choosing personnel can make staff training a stimulating and rewarding experience for supervisors, as well as, ultimately, for babies (Honig, 1972).

Staff Training

Both preservice and inservice staff training are integral components of the Children's Center program. The Center is closed for an intensive two-week training

period in early autumn. All personnel, including bus drivers and food preparation staff, participate in these sessions. Less emphasis is placed on long lectures and more time is given to workshops, role playing, and small-group talks and demonstrations. Often teachers or CDT's with special skills in an area such as "songs and rhythm games" or "making books for babies" will lead one of these sessions. Research staff with expertise in topics such as nutrition, Piagetian games, language development, or handling discipline problems, conduct other sessions. Frequent use is made of infant growth and infant care films such as "Learning to Learn in Infancy" by Dr. Joseph Stone, and "How Babies Learn" by Dr. Bettye Caldwell. A more complete description of the Children's Center philosophy of staff training is to be found in "Training Paraprofessionals for Work with Infants and Toddlers" (Lally, Honig, & Caldwell, 1972). Additionally, Honig &nLally (1972) have recently published a handbook, Infant Caregiving: A Design for Training, which makes explicit the subject areas, materials, and techniques we have used in training staff for work with infants.

During the intensive annual preservice training period, we have found it most useful to provide daily diaries for trainees. Their records and comments about what they have learned, their criticisms, puzzlements, and summaries of the material presented, help us to provide better training. These diaries ultimately serve as a personal resource and refresher book for the caregiver on the job.

Inservice training takes a variety of forms. The Children's Center's principal, Miss Lucille Smith, is responsible for many aspects of training--particularly those concerned with safety, comfort, and well-being of the infants. Other teacher-trainers are responsible for in-classroom work with teachers. The teacher-trainers model such skills, for example, as: how to handle behavioral problems, how to use on-the-spot situations to help a child notice or learn something new, how to encourage a child to explore and learn more independently, and how to facilitate pleasurable social interactions among children.

Inservice training is furthered by regular written feedback to teachers from testing personnel. This information summarizes each child's interests, competencies and difficulties in relating to test materials, activities, and the interpersonal milieu of the assessment situation. When necessary, case conferences are held which draw upon tester, teacher, home visitor, and pediatrician's knowledge of a child who may be having problems needing special help.

Sensitivity to periodic needs of caregivers for resharpening their skills and for rededication to program conceptualization is important. Some staff meetings are therefore devoted to specific topics of concern for smoother Center functioning and to program policy considerations. Teachers also meet to create learning materials and to share ideas for facilitating infant development in areas where difficulties are encountered.

Curriculum Planning and Activities

Theoretical Assumptions

Infant Fold activities of all sorts are predicated on the basic needs of an infant for happy, trusting relationships with caregivers. Only as an infant's basic needs for feeding, soothing, cuddling, resting and exploring are met in a regular and loving fashion, can the infant be expected to become responsive to developmental tasks and games of the caregiver's devising. Even more important, only as an infant becomes consistently assured of the responsiveness of a special person does he begin to be responsive and alert in his relation to others--to fret when his special caregiver leaves the room on an errand, to smile a greeting of pleasure when she returns.

Another cardinal goal of the infant curriculum has already been noted. Whenever possible learning games are embedded in caregiving routines. Diaper changing time is wonderful for teaching "toes" and "tummy" and "up" and "down."

Feeding time is a good time to teach imitation of familiar unseen gestures, such as mouth opening and closing, in addition to "nyum-nyum" as a word to accompany the gesture. Feeding time can also be used to promote self-help skills as baby ventures to sample fingerfuls of food on his own. Self-feeding helps a baby to coordinate looking and reaching and grasping. Yet the adult still remains ready to help either the infant who tries, but cannot yet get enough food to his mouth on his own, or the infant who is doing pretty well but still wants to be sure his special person will give him some of his meal if he needs this.

Group versus individualized program. Flexibility is the rule in arranging for either group or individualized play with infants. Room furniture and rugs serve to delineate areas in which several toddlers can more easily attend to special games the caregiver has arranged.

Sometimes a distressed, newly-enrolled infant needs much individual attention. He may need to be carried on a caregiver's hip for a long time before he can be calmed. Thus another cardinal policy is helpfulness of co-caregivers to each other. It is good for babies to get used to the ministrations of more than one adult. It is also very practical to encourage such sharing when one caregiver must care temporarily for more than her own four infants. One caregiver with ingenuity, and left alone with seven infants, when her co-worker was on a coffee break, sat on the floor and softly beat rhythms on a tambourine while singing to the babies lying on the floor near her.

Problem of the 'match.' Teachers are expected to be very much attuned to the problem of the 'match' between developmental level attained and level of task presented for each baby. One infant may be ready to try a "two-screen alternation of visible displacements" problem. With another baby of comparable

age the teacher may be still working on single screen hiding games. Teachers work at the levels of competence of individual infants. They choose materials of high interest to particular infants. The infant who will not try to find a small hidden toy under a sweater may snatch away the screen with alacrity if a cracker or a favorite toy car is the hidden object.

Language. Teachers talk to babies a lot. As a baby is lifted down from the diapering table teacher says "Down we go." As a teacher offers another sip of milk she says "More milk. Jerry Jo want more milk?" Teachers respond to baby vocalizations and babblings and poorly articulated words with pleasure. Babies are encouraged to imitate simple words. "Baw" for "ball" and "nana" for banana are fine attempts by an infant to communicate with language.

The Infant Curriculum

The more formal infant curriculum has been described in Lally (1971). Briefly, this program emphasizes:

1. Development of prehension skills.
   (a) Reaching for toys.
   (b) Shaking toys.
   (c) Hitting suspended toys.
   (d) Pulling suspended toys.
   (e) Squeaking toys.
   (f) Grasping and handling objects of different sizes and shapes.
2. Development of object permanence: Concept that an object exists independent of a child's own actions..
   (a) Playing peek-a-boo.
   (b) Horizontal following of toys.
   (c) Finding toys after visible displacements under screens.
   (d) Finding toys after invisible displacements under screens
   (e) Putting toys into containers and finding toys under containers.

3. Development of means for achieving desired environmental ends: Using objects as instruments in attaining goals.
   (a) Reaching over obstacles for toys.
   (b) Using a support, such as a pillow, to obtain a toy placed on top of the support, but out of the child's reach.
   (c) Using a string horizontally to obtain a toy tied to the string.
   (d) Using a string vertically to obtain a toy tied to the string.
   (e) Putting a chain into a box.
   (f) Using a stick to obtain an object.
4. Development of new schemas in relation to objects: Finding ways of acting on objects and of using toys and materials appropriately.
   (a) Hitting two toys together.
   (b) Patting a toy animal.
   (c) Making a doll walk.
   (d) Stretching an elastic bracelet.
   (e) Throwing toys.
   (f) Adorning oneself with a pop-it bead necklace.
   (g) Drinking from a cup.
5. Development of causality: Forming a distinction between act and external result.
   (a) Bringing an unseen object to sight.
   (b) Ringing a bell to make a sound.
   (c) Turning a key to make a mechanical toy run.
   (d) "Zooming" a friction car to make it go.
   (e) Working a Jack-in-the-box.

6. Developmental achievement of the construction of the object in space: Conceiving of a single, objective space within which all objects are contained and interrelated.
   (a) Finding a toy by its sound.
   (b) Following the trajectory of a toy.
   (c) Bunching a chain and putting it into a box.
   (d) Nesting several boxes.
   (e) Rolling objects down a plane.
   (f) Creeping around a barrier, such as a rocking chair, to retrieve a ball rolled underneath the chair.
7. Development of gestural imitation.
   (a) Imitating a familiar visible gesture, such as pat-a-cake.
   (b) Imitating an unfamiliar visible gesture, such as crooking a finger.
   (c) Imitating a familiar invisible gesture, such as tilting the head back and forth.
   (d) Imitating an unfamiliar invisible gesture, such as an eye wink.
8. Development of verbal learning.
   (a) Imitating baby sounds.
   (b) Imitating unfamiliar sounds, such as "la-la."
   (c) Labeling objects, people, feelings, actions, places, times, questions, and directions.
   (d) Listening to stories.
   (e) Carrying out verbal requests with appropriate gestures.
9. Physical development and exercises.
   (a) Stretching and flexing legs.
   (b) Rolling body into a ball.
   (c) Rocking on the stomach.

(d) Doing somersaults.

(e) Bouncing the body to music.

(f) Bending to pick up objects.

(g) Pulling up on heavy furniture.

10. Development of sense organs.

(a) Producing and listening to sounds (music boxes, rattles, wrist bells, records, tapes, etc.)

(b) Producing tactual experiences (feel boxes, fur collars, nylon net, styrofoam, etc.)

(c) Producing kinesthetic experiences (swinging, tickling with a feather, running a hair brush along the arm, etc.)

(d) Producing visual experiences (looking at pictures, books, mobiles, etc.)

(e) Tasting new foods and new textures of familiar foods.

The Process of Generating Curriculum Activities

Infant caregivers, with the help of the Program Supervisor, use their ingenuity and their sensitivity to individual infant functioning to create curriculum activities. This is not a difficult task, once the basic curriculum components have been learned in terms of the provision of tender loving care along with Piagetian games, language encouragement, sensory experiences, and opportunities for development of motoric, sociable, and self-help skills. The Infant Fold room has large wall charts on which teachers initial each day those activities of the Infant Curriculum which they have carried out in some fashion with a particular baby. So, for example, presentation of the "horizontal string problem" with one baby may mean that thick colorful yarn only a couple of feet long is tied to a large favorite toy so that the baby, with one tug, can recuperate the toy. With another baby this problem may involve three long thin strings

stretched out close to one another in front of the baby. Only one of the strings is attached to a toy. For a third baby, this three-string problem may be made more attractive by setting the far string ends on top of three upturned colorful orange juice cans. Under these conditions, the string to which the lure is attached is more clearly visible since the toy itself rests on a can top. This latter variant may induce a baby to "find the toy" more easily if the multiple string problem is still difficult for him, even though he can carry out hand-over-hand pulls on a string to bring the toy in towards himself. This variant, incidentally, was devised by a teacher who has learned the basic curriculum well. Her ingenious variations provide the tiny steps-up and steps-down which match the task level to the child's ability and willingness so much more closely and so increase his chances for successful problem solutions and for pleasurable feelings about his own strivings and accomplishments.

The use of praise. Another important aspect of learning games is the use of positive reinforcement to reward babies for trying or for persevering at slightly difficult or new tasks. The infant caregiver uses body caresses, smiles, hand claps, verbal cheering on and occasional whirl-around-hugs to express her pleasure at infant accomplishments of many kinds.

Happy endings for learning games. Caregivers are taught to end learning games on a non-discouraging note whenever possible. For example, a baby may be having trouble with the two-string problem and only solving it occasionally. The teacher is encouraged to end the game with a couple of one-string presentations so the fatigued infant can enjoy some successes and his caregiver's appreciation of them before the game ends.

Games with multiple purposes. Because the Infant Fold curriculum is so flexible and individually tailored to the teacher's discretion and the infant's needs, many activities seem to occur spontaneously and seem to serve several

curricular goals. For example, a corridor of sorts can be created within the large infant classroom by placing some 3-foot-high divider screens along a line parallel to one wall and about four feet from the wall. Infants enjoy a "run-run-run" game with their energetic caregiver in this corridor. She sometimes pops behind one of the screens and pokes out her head at the side. Then she calls "peek-a-boo Jimmy!" before ducking back behind the screen. The infant, with peals of laughter, toddles to the screen and peers around to find his teacher. She may have scooted to the opposite side of the screen to play peek-a-boo from a new angle. The screen and corridor provide opportunities for gestural imitation, large muscle play, object permanence games, and for developing further a joyous relationship between caregiver and child.

In a like manner, routine caregiving activities often serve several curricular goals. An infant's caregiver may change a diaper, sponge a hot face, and comb baby's curly hair. Then she may help sit the little girl up to admire herself in the mirror on the wall at table level. The caregiver exclaims, "Pretty girl. Suzy looks so clean, so pretty." This caregiving routine promotes program goals of a trusting, nurturing relationship, gives a boost to baby's self-concept, and teaches the baby that "pretty" is a word that goes with the washed-and-combed creature smiling in the mirror.

Relationship of curriculum to child functioning. The Infant Fold curriculum thus emerges as a function of the total environment of materials, people, and also the locale in which the babies are cared for. The curriculum in this perspective is seen as related to promotion of all aspects of the child's development. It consists not only of more formal or staged games and activities, but also of all the incidental learning experiences that can occur in a varied environment with loving personnel.

Curriculum for Family-Style Groupings

The family-style group not only permits but almost requires a great deal of individual teacher responsibility and ingenuity. In each area described earlier, the child is free to choose toys, games, and children he wishes to play with and activities he is willing to join. The teacher expands a child's interests, encourages him to work more persistently and independently at activities, and shares his pleasure when he completes a painting or puzzle or a climb to the top of a slide.

The teacher is an arranger. He or she sets out materials invitingly. Tubs of water are filled. Teacher sets out pots and utensils of different shapes, some with drip holes, others solid. She snuggles two or three toddlers on either side of her and perhaps even another on her lap, and sits back to read a story on the old leather couch in the reading corner. She cuts a few sprays of lilacs in spring, arranges them in a bottle of water, and takes pleasure in the children's delighted whiffs and sniffs of the fragrance.

The teacher offers creative new experiences with old or ordinary materials. One Transition Group teacher placed assorted sizes of large grocery cartons on the floor. Some of the cartons opened outward, some upward. Toddlers crept into and out of the boxes as they tried not to miss one box in this impromptu 'maze!" Physical coordination, spacial words and relations were integral parts of this game.

The teacher shows how. Often a toddler insists on accomplishing an activity himself or prefers working on his own, but nevertheless still needs some adult assistance. The wise teacher provides help unobtrusively or else gives clear gentle demonstrations: for example, how to turn your wrist until the puzzle piece you are holding fits into its niche. Children learn not only motoric and cognitive skills, but patience in the face of stress, more mature ways of responding to and coping with frustrations, and pleasure in the daily interactions of the day care world, from teachers who model these behaviors themselves.

The teacher reminds. The differentiated environments which characterize the older infants' program are not easy for the newly-arriving 18-month-olds to understand at first. Brooms must be left in the housekeeping corner. One can run in the hallway or large muscle room, but not while still clutching puzzle pieces from the small muscle area. Learning the materials available, how they are used, and the nature of the activities possible in each area takes time. The teacher's reminders, clear, simple, and explanatory, are very helpful.

The teacher uses language and encourages talking. She promotes language development not only during classroom activities, but at meal times and toileting times and outdoor play times. Appropriate words for actions or objects are taught in a variety of ways and situations. We can point not only to dolly's nose, but teacher's nose and baby's nose and gerbil's nose as he wiggles it in his cage.

Generating curricular activities. Each teacher is assigned for a one-week period to each differentiated environment. Teachers rotate weekly from one to another of the four major activity areas. In the expressive area two teachers are always available. One 'floating teacher' is always available in case a large number of children choose to enter a given area and more adult help is needed.

During each week, one of the two possible teachers assigned to a given area is responsible for planning the activities to be offered in that area. A week's time gives sufficient scope for a teacher to plan effectively and creatively. It allows a teacher sufficient opportunity to observe and accommodate to the individual characteristics and needs of children who choose to play in that area. The teacher is also alerted to those children who need special adult efforts to motivate them to enter a given area. For example, one three-year-old spent a great deal of his time running and climbing in the large muscle activity area.

He enjoyed vigorous tricycle riding in the gym. He was 'lured' into the expressive area by a teacher who recognized his interests in sports. She helped him find colorful magazine pictures of trucks and cars to paste. The child became interested in the sensory experience area when a teacher read him picture book stories about engines and trains and ball-playing. Language encouragement efforts were also sensitive to the child's preference for the large muscle area. Concepts such as "near" and "far" and "big" and "little" were used in a game which appealed to the child. He could pitch different sized balls into an empty wastebasket placed near him or placed far from him.

Simplicity is a key to effective curricular planning. In the large muscle area teachers tied a piece of clothesline to a chair leg. The rope can be pulled taut parallel to and about one-and-one-half feet from the floor. Toddlers listen for the call "Over the rope!" or "Under the rope we go," and they either climb over or wriggle under with great zest. Variants of this game promote the acquisition of causal and spatial concepts, as when a teacher lowers the rope nearly to the floor and laughingly invites children to go "under the rope." The incongruence of the request in relation to spatial realities stimulates discussion, explanations, and understanding.

Modification of commercial materials or their use is carried out if the materials are somewhat inappropriate to a toddler's skill levels. The ring stack game is presented with only two or three of the possible ten rings to a baby who is still struggling with getting one ring on over the center pole. Teachers in their workshops, held during toddler naptime, also create new versions of equipment after analyzing the component skills required by a difficult game. Shoe-lacing on the large toy shoe was very frustrating for one beginner. The teacher screwed three eye-screws so that they formed a triangle on a square of plywood. A shoe lace was fastened to one of the eye-screws. The child could cope with the simplified though still challenging task of threading a lace in turn through each of the large eye-screw holes.

Analyzing a child's difficulties in relation to objects and people helps teachers to help children. The children in family-style initially had difficulty with the concept of taking turns--particularly with one attractive, but unique, wheeled toy in the gym. Teachers pointed to each child in turn saying, "First Kevin asked so it's his turn. Next it's John's turn. You asked next, Jimmy, so then it will be your turn." Even when Jimmy wandered away, teachers came to find him when it was his turn. The children quickly learned about taking turns, and learned more importantly, to trust the adults who kept promises and made fair sharing a working solution to problems and not just a set of adult verbal admonitions.

Relationship of curriculum to child functioning. Episodes cited above confirm that the curriculum is flexible and intimately related to each individual child's own functioning and development. The child's interests and capabilities are capitalized on by teachers in order to enlarge and enrich both range of experiences and behavioral repertoire.

The program structure--family-style grouping and freedom of choice available in various areas--facilitates the child's development of venturesomeness, responsibility for choices, autonomy, sharing, and other personal-social skills. Accompanying teachers have spied older children shepherding younger ones from the gymnasium through the long church corridors back to classroom areas for wash-up time in preparation for lunch. Children at family-style lunch can and do help themselves to extra portions; they help with clean-ups too.

The Children's Center program emphasizes the process rather than any specific tasks and practices to encourage competencies or to engender increased awareness and responsivity to aspects of the social, physical and language world. The teacher's job is to nourish the toddler's joy in doing and learning so that he becomes a responsible, effective, sociable person and an autonomous self-motivated child in his learning career.

Assessment and Evaluation

Table 1 provides an overall picture of the assessment techniques and evaluation schedule of the Center program (Lally, 1972b, Ch. 1). The schedule for follow-up assessments which occur after an infant leaves the Children's Center program are not included in this table. Assessments in the program focus on three major areas: parental and family functioning, teacher effectiveness, and child development. Some of the measures are repeated longitudinally in order to monitor the process by which, for example, an infant develops language competency. Other measures are more summative than formative evaluations of program effect.

Family and Parental Measures

The CDT's collect information on a Diet Form which permits assessment of the mother's knowledge of her baby's feeding patterns and her observance of adequate dietary practices for her whole family. The CDT's also fill out a weekly sixty-item observational instrument, the "Weekly Home Visit Report" (WHVR). WHVR assesses (a) parental affective relationship with the infant during the home visit, (b) language usage with the baby, (c) availability of toys and learning materials in the home, and (d) maternal responses to the CDT's teaching, materials, and demonstrations.

Parental 'with-it-ness', in relation to program goals, is rated globally by the CDT's on a four-point scale. This objective is also assessed by interview, using the Caldwell "Inventory of Home Stimulation" (STIM). STIM consists of items either observed or inquired about in the home. The items relate to such factors as the breadth of experience, language, positive affective interactions, promotion of cognitive advances, and environmental regularity which parents provide for the child. Additionally, a semi-structured interview,

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Insert Table 1 about here

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the "Implicit Parental Learning Theory" (IPLET), is administered in the home. IPLET is designed to help identify the implicit learning theories of a mother as they are expressed in her manner of handling a wide variety of child behaviors.

Teacher Effectiveness

The Children's Center's concern for program quality is expressed not only in the attention paid to staff selection and training, but also in the monitoring of classroom input to children. Two versions of an observational checklist, "Assessing the Behaviors of Caregivers" (ABC), have been created. One is for Infant Fold teachers. ABC for infants assesses teacher provision of: language facilitation, social-emotional behaviors, physical development games, caregiving routines, and Piagetian games to babies. The ABC checklist for family-style teachers assesses teacher facilitation of: language development, personal-social skills, physical skills, and concept development; it also assesses teacher provision of caregiving routines and of social-emotional responses. In each case, an observer regards a specific teacher and checks what behaviors the teacher emits during each two-minute rating period. Provision for rater rest after every few periods permits twelve 2-minute tallies per half-hour recording session. We have found that the ABC scales are economical, easy to apply, and very sensitive to teacher differences. Additionally, ABC data have confirmed that program inputs of the infant curriculum described earlier are indeed being carried out, although to different degrees by different teachers (Honig, Lally, & Wollin, 1972). The ABC checklists have been particularly useful for improving individual staff output in specific curricular areas. Copies of both ABC scales are appended to this paper.

Child Development Measures

Ultimately the effectiveness of an infancy program must be demonstrated in the developmental progress of the children themselves. Thus we have concentrated much of our evaluation effort on the assessment of psychosocial and cognitive functioning of the children.

Developmental Achievements

The "Cattell Infant Intelligence Scale" is administered to infants under 24 months and the "Stanford-Binet" test thereafter. At six months the Cattell I.Q. scores of infants whose families have received the perinatal home visiting program are significantly superior to scores of infants without such a program prior to program entry (Lally, 1972 a, p.22). However, these gains are no longer evident by one year of age. We have continued, over time, to examine I.Q. scores of Center children in comparison with low-income control infants (Lally, 1972a, p. 20). At 36 months the Center infants seem to be sustained in their developmental quotients achieved, while controls exhibit the depressed scores so frequently found in disadvantaged children after the first few years of life. Since the first group of Family Development Research Program graduates have become three years old only within the past couple of months, we shall have to await further information from larger numbers of infants who will be completing the program in the future.

Language Assessment

Since facilitation of both receptive and expressive language receives such strong emphasis in all phases of the curriculum, we have been particularly interested in measuring infant progress in language development. An additional impetus to this effort comes from research which shows that early language functions can be better predictors of later intellective performance than standard

infant developmental tests (Bayley, 1968; Hertzig, M., Birch, H., Thomas, A., & Mendez, O, 1968; Levenstein, 1969). Therefore we have been concerned with the development of infant language measures at very young ages as well as the use of standized tests already available for older pre-schoolers.

An observational measure, CLOC, in the form of a checklist of infant language items in a variety of family-style classroom situations, is being developed with the help of Ms. Nancy Smothergill.

At 36 months the "Illinois Test of Psycholinguistic Abilities" (ITPA) is administered to assess the language functioning of the Center infants who are 'graduating.' The "Early Language Assessment Scale" (ELAS) has been used with younger infants, from six to 30 months. ELAS (Honig & Caldwell, 1966) is designed to assess infant ability (a)(to decode the meanings of words, gestures, and items such as food, furniture or toys, and (b) to encode experiences and respond with appropriate vocalizations, gestures, and verbalizations. Longitudinal analysis of Center infants from six to 30 months indicates that improvement in their ELAS scores relative to low-income controls seems to occur gradually and consistently after 18 months of age. By thirty months, Center infant scores are comparable to those of middle-class controls.

Piagetian Assessment

A prominent curricular component of Infant Fold includes both presentation of sensorimotor tasks and arranging the environment so that infants can acquire sensorimotor skills through their own explorations. Therefore, the assessment battery includes a variety of Piagetian scales. Prehension, object permanence, means-ends relations, causality, space, schemas with objects, and imitation tasks are among those presented to infants. Center infants accomplish these Piagetian tasks as well as home-reared middle-class infants. On some of the tasks, such as object permanence, they tend to do better than low-income control infants (Honig & Brill, 1970).

Social-Emotional Assessments

Increased positive socio-emotional functioning is the foundation upon which the facilitation of infant learning is predicated. Much work has been devoted to developing assessments in this area, and to a search for available measures. However, few adequate measures of infant socio-emotional functioning exist.

The "Cornell Descriptive Scanning Record of Infant Activity," an observational instrument devised by Dr. Henry Ricciuti, has been utilized in the Infant Fold to document the satisfactory level of Center infant social responses, and visual, vocal and physical activity levels, in comparison with a Cornell University infant nursery contrast group of middle-class infants from intact homes. According to data gathered primarily by Ms. Karen Freiberg, Children's Center infants from six to thirteen months seem to be more alert, talkative, and physically active. They also smile, vocalize, and engage in playful interaction more frequently than the contrast group of babies from optimal home environments. These data are reassuring in the light of oft-expressed fears that group care of infants may depress socio-emotional functioning. Additionally, we should like to note with pleasure that these data represent a step forward in recent attempts to initiate collaborative efforts in infancy research. The modest numbers of babies available for most infancy research makes such efforts particularly worthwhile.

Assessment of socio-emotional behavior during developmental testing. The "Bayley Infant Behavior Record" is filled out after the administration of each developmental test. These data permit analysis of the social-emotional responses of infants in the testing situation to easy or difficult tasks and to testing personnel.

Additional socio-emotional measures. We are currently preparing to use several other measures of emotional and social functioning to assess the older infants in our program. Emmerich's (1971) "Observation Scale" to measure child personal-social relations with peers and adults will be administered. Task orientation and involvement will be measured with Beller's "Autonomous Achievement Striving" rating scale. Schaefer's "Classroom Behavior Inventory" will be filled out by teachers to rate the comparative functioning of each child in the classroom on a series of socio-emotional variables.

Program Effectiveness: Conclusions

Evaluation of the effectiveness of any program is closely tied to its goals and objectives. The measures described above will hopefully reflect increased parent enjoyment and awareness of children's development and increased skills in coping with their own lives and in helping their children develop well. Assessment of the children will hopefully give numerical reality to the zest for living, learning, and independent functioning which is reflected in the children's actions and faces as they move about the Children's Center classrooms.

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Footnotes

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TABLE 1

Assessment Schedule and Measures
for the Children's Center and Contrast Groups

Assessments		Ages of Children (in months)						
	Infants	6	9	12	18	24	30	36
Language	ELAS (Early Language Assessment Scale)	X*	XX	XYZ	XYZ	XYZ	XYZ	
	ITPA (Illinois Test of Psycho-Linguistic Abilities)							XY^1Z^1
	Classroom Language Observations Checklist (CLOC)					X		X
Developmental and Piagetian	Cattell	X*		XYZ	XYZ			
	Binet						XYZ	XY^1Z^1
	Piaget Infancy Scales	X*	X	XYZ	XYZ			
	Preschool Inventory							
	ITPA (Illinois Test of Psycho-Linguistic Abilities)							
	Boehm Test of Basic Concepts							
	Wide Range Achievement Test (Reading, Spelling and Arithmetic)							
	Metropolitan Reading Readiness Test							
Socio-Emotional	Cornell University Descriptive Scanning Record of Infant Activity and Infant Environment	(6 to 13 months)						

Table 1 (Continued)

Assessment Schedule and Measures
for the Children's Center and Contrast Groups

	Assessments	Ages of Children (in months)						
		6	9	12	18	24	30	36
	Infants							
Socio-Emotional	Emmerich Observational Ratings							XY^1Z^1
	Beller Autonomous Achievement Striving (AAS)							XY^1Z^1
	Schaefer Teacher Classroom Ratings							XY^1Z^1
	Parents							
	Weekly Home Vist Report (WHVR)	X						
	STIM (Stimulation Potential of the Home)							XY^1Z^1
	IPLET (Implicit Parental Learning Theory)							XY^1Z^1
	CDT Global Ratings of Parents in relation to program goals							X
	FDR (Family Data Record)	X						X
	Teachers							
	ABC: Infant Fold	(6 to 15 months)						
	ABC: Family Style	(18 to 36 months)						

X = Center Children Y = Low Income Controls Z = Middle-class controls Y^1 = Longitudinal low-income controls

Z^1 = Longitudinal middle-class controls

*These measures are given to both perinatal and newly-entering infants to permit analysis of the effects of the perinatal program.

ASSESSING THE BEHAVIORS OF CAREGIVERS - INFANT FOLD

Caregiver's Name: _____ Rater: _____

Date_____ Day_____ Time_____

Child's Name				
2-minute Trials				
I. LANGUAGE FACILITATION				
1. Elicits vocalization				
2. Converses with child				
3. Praises, encourages verbally				
4. Offers help or solicitous remarks				
5. Inquires of child or makes requests				
6. Gives information or culture rules				
7. Provides and labels sensory experience				
8. Reads or shows pictures to child				
9. Sings to or plays music for child				
II. SOCIAL-EMOTIONAL: POSITIVE				
1. Smiles at child				
2. Uses raised, loving, or reassuring tones				
3. Provides physical, loving contact				
4. Plays social games with child				
5. Eye contact to draw child's attention				
III. SOCIAL-EMOTIONAL: NEGATIVE				
1. Criticizes verbally; scolds; threatens				
2. Forbids; negative mands				
3. Frowns, restrains physically				
4. Punishes physically				
5. Isolates child physically-behavior modif.				
6. Ignores child when child shows need for atten.				
IV. PIAGETIAN TASKS				
1. Object permanence				
2. Means and ends				
3. Imitation				
4. Causality				
5. Prehension: small-muscle skills				
6. Space				
7. New schemas				
V. CARE-GIVING: CHILD				
1. Feeds				
2. Diapers or toilets				
3. Dresses or undresses				
4. Washes or cleans child				
5. Prepares child for sleep				
6. Physical shepherding				
7. Eye checks on child's well-being				
VI. CARE-GIVING: ENVIRONMENT				
1. Prepares food				
2. Tidies up room				
3. Helps other caregiver(s)				
VII. PHYSICAL DEVELOPMENT				
1. Provides kinesthetic stimulation				
2. Provides large-muscle play				
VIII. DOES NOTHING				

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ASSESSING THE BEHAVIORS OF CAREGIVERS: FAMILY STYLE

Caregiver's name:_____ Rater:_____ Date_____ Day_____ Time_____
Place_____

I. FACILITATES LANGUAGE DEVELOPMENT	
1. Converses	
2. Models language	
3. Expands language	
4. Praises, encourages	
5. Offers help, solicitous remarks, or makes verbal promises	
6. Inquires of child or makes request	
7. Gives information	
8. Gives culture rules	
9. Labels sensory experiences	
10. Reads or identifies pictures	
11. Sings or plays music with child	
12. Role-plays with child	
II. FACILITATES DEVELOPMENT OF SKILLS	
SOCIAL; PERSONAL	
1. Promotes child-child play (cog. & sensori.)	
2. Gets social games going	
3. Promotes self-help and social responsibility	
4. Helps child recognize his own needs	
5. Helps child delay gratification	
6. Promotes persistence, attention span	
PHYSICAL:	
4. Small muscle, perceptual motor	
5. Large muscle, kinesthesis	
III. FACILITATES CONCEPT DEVELOPMENT	
1. Arranges learning of space and time	
2. " " " seriation, categorization, & polar concepts	
3. " " " number	
4. " " " physical causality	
IV. SOCIAL-EMOTIONAL: POSITIVE:	
1. Smiles at child	
2. Uses raised, loving or reassuring tones	
3. Provides physical loving contact	
4. Uses eye contact to draw child's attention	
V. SOCIAL-EMOTIONAL: NEGATIVE:	
1. Criticizes verbally, scolds, threatens	
2. Forbids, negative mands	
3. Frowns, restrains physically	
4. Isolates child physically--behav. mod.	
5. Ignores child when child shows need for attention	
6. Punishes physically	
7. Gives attention to negative behavior which should be ignored	
VI. CAREGIVING - BABY:	
1. Diapers, toilets, dresses, washes, cleans	
2. Gives physical help, helps to sleep, shepherds	
3. Eye-checks on child's well-being	
4. Carries child	
VII. CARE-GIVING: ENVIRONMENT	
1. Prepares/serves food	
2. Tidies up room	
3. Helps other caregiver	
4. Prepares activities, arranges environment to stimulate child	
VIII. QUALITATIVE CATEGORIES:	
1. Encourages creative expression	
2. Matches "tempo" and/or developmental level of child	
3. Actively engages child's interest in activity or activity choice	
5. Follows through on requests, promises, directions, discipline	
IX. DOES NOTHING	

Use red pencil to tally caregiver behavior with boys
Use black pencil to tally caregiver behavior with girls